

WHAT IS CLAIMED IS:

1                   1.       A method for requesting access to a congested communication  
2 node in a mesh communication packet network comprising:  
3                   withholding, at a requesting node, requests for access to said congested  
4 communication node while awaiting receipt, at said requesting node, of a poll request  
5 packet containing a first datum of information indicating availability of a communication  
6 slot;  
7                   broadcasting from said congested communication node said poll request  
8 packet when said congested communication node is ready to provide services; and  
9 thereafter  
10                  directing from said requesting node a poll packet to request access to the  
11 congested node.

1                   2.       The method according to claim 1, wherein the controlling node is a  
2 more congested node, the method further comprising  
3                   broadcasting from the controlling node a packet which is operative to  
4 request poll signals from those nodes desiring resources of the controlling node;  
5                   sending from the controlling nodes requests of optimally transmitting data  
6 between the controlling node and the requesting nodes;  
7                   broadcasting a control packet with information from the congested node  
8 that directs the requesting nodes when to send and receive data; and thereafter  
9                   causing each individual requesting node to transmit local data in turn to the  
10 controlling node.

1                   3.       The method of claim 2 further including thereafter:  
2                   scheduling each individual requesting node which receives data from the  
3 controlling node, if such data is available, as scheduled by the controlling node; thereafter  
4                   receiving at each individual requesting node acknowledgments of  
5 corresponding individually transmitted data packets from the controlling node; and  
6 thereafter

transmitting from each individual requesting node further  
acknowledgments to receipt of data if data has been previously transmitted to it by the  
controlling node.

4. The method according to claim 3 further comprising:  
purging data packets from a transmitting node upon receipt of  
acknowledgment of successful reception of said data packets.

5. An apparatus for requesting access to a congested communication  
node in a mesh communication packet network comprising:

means for withholding, at a requesting node, requests for access to said  
congested communication node while awaiting receipt, at said requesting node, of a poll  
request packet containing a first datum of information indicating availability of a  
communication slot;

broadcasting means for broadcasting from said congested communication  
node said poll request packet when said congested node is ready to provide services; and  
thereafter

means at said requesting node for directing from said requesting node a  
poll packet to request access to the congested node.

6. The apparatus according to claim 5, wherein the controlling node is  
a more congested node and wherein the controlling node is operative to broadcast a  
packet requesting poll signals from the nodes desiring resources of the controlling node  
and the controlling node is operative to have sent the requests of optimally transmitting  
data between the controlling node and the requesting nodes, further comprising:

means operative to broadcast a control packet from the congested node  
that directs the requesting nodes when to send and receive data packets; and

means to cause thereafter each individual requesting node to transmit its  
data packets in turn to the controlling node.

7. The apparatus according to claim 6 further including:

2 means at said controlling node for scheduling transmitting times for each  
3 individual requesting node which receives data from the controlling node, if such data is  
4 available;

5 means for receiving at each individual requesting node acknowledgments  
6 of corresponding individually transmitted data packets from the controlling node; and

7 means for transmitting from each individual requesting node further  
8 acknowledgments to receipt of data if data has been previously transmitted to it by the  
9 controlling node.

1 8. The apparatus according to claim 7 further comprising:

2 means for purging data packets from a transmitting node upon receipt of  
3 acknowledgment of successful reception of said data packets.